COMMUNITY

A workforce out of balance

Too many biomedical PhDs and too few minorities are a demographic dilemma for the NIH.

BY MEREDITH WADMAN

The US biomedical workforce has a glut of young researchers but a dearth of some minority groups, members of which are struggling to establish themselves in the field. The double-barrelled problem is laid out in detail in a pair of reports presented to the US National Institutes of Health (NIH) in Bethesda, Maryland, on 14 June.

NIH leaders have long worried about a steep increase in the number of biomedical PhDs, a consequence of the doubling of the NIH budget from 1998 to 2003. Now that boom is making it increasingly difficult for young scientists to launch academic careers (see 'Swelling ranks').

"This is dysfunctional and it's not sustainable in the long term," says Shirley Tilghman, president of Princeton University in New Jersey and a co-chair of the working group that authored a report on structural problems in the workforce. It calls for several measures to address the oversupply of PhDs, including a six-year cap on the number of years that a graduate student can be supported by NIH funds and an increase in the proportion of students on career-oriented training grants rather than on research grants.

A second report, focusing on diversity, was spurred by a study published in *Science* last year, which found that after factors such as education and publication record are controlled for, black applicants are 10% less likely than white applicants to win NIH research funding (D. K. Ginther *et al. Science* **333,** 1015–1019; 2011).

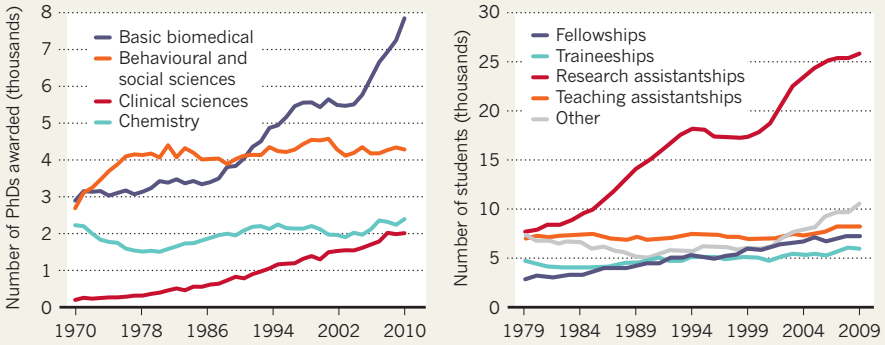
The diversity report confirms that minority applicants have significantly reduced success rates for grant applications (see 'Uneven playing field'). Confronted with data such as these, "there are a number of scientists of colour who feel, at the end of the day, 'What's the point?'" says Reed Tuckson, vice-president and chief of medical affairs at the health-insurance firm UnitedHealth Group in Minnetonka, Minnesota, and one of three co-chairs of the diversity working group. That sentiment "really, really bothers me", he adds. "We have got to turn [that] around."

The report recommends, among other things, that the NIH launch a "bold", well-funded competitive grant process to build infrastructure at institutions with a record of producing minority scientists, and that it launch an experiment to make applicants' identities and institutions anonymous in the review process.

Francis Collins, director of the NIH, has promised to respond to the recommendations by December. ■

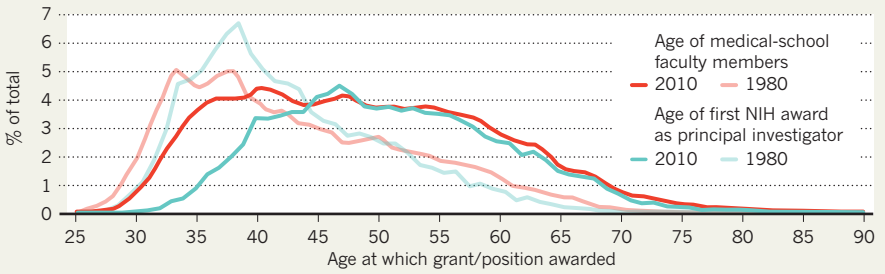
SWELLING RANKS

The number of US biomedical PhDs has ballooned in the past decade, driven by NIH funding of research assistantships. These typically offer less career development compared with traineeships and fellowships.



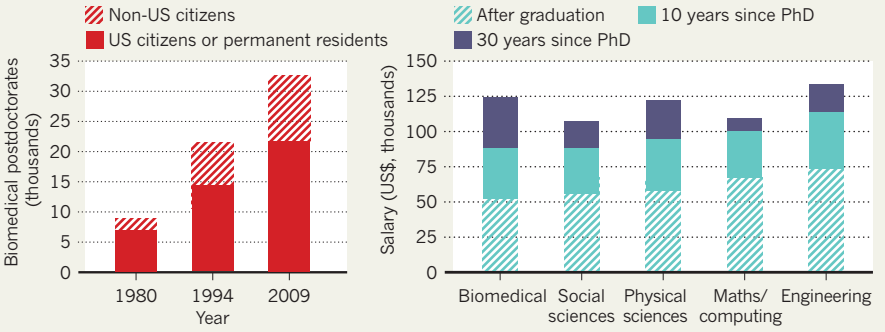
SOURCE: NSF

Researchers become faculty members and win a first NIH grant significantly later in life now than in 1980.



SOURCE: NIH; ASSOC. AM. MED. COLL.

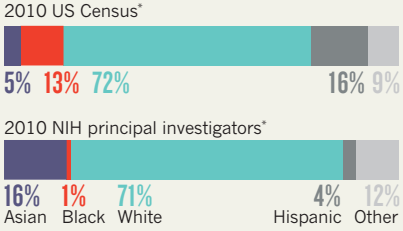
A growing number of US biomedical scientists are foreign workers. Early salaries are lower than in other fields.



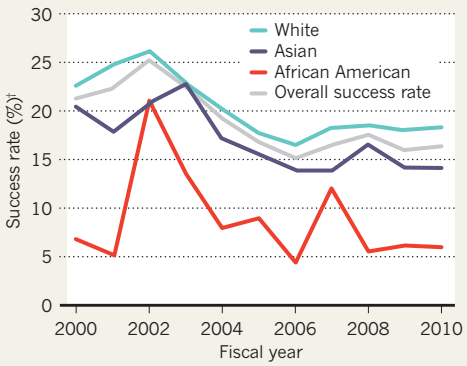
SOURCE: NSF

UNEVEN PLAYING FIELD

Relative to the US population, black and Hispanic people are under-represented in biomedical fields. Minority applicants have lower success rates than white applicants at winning new NIH grants (right).



*Adds to more than 100% because some respondents declared two races.



†Success rates of NIH new grant applications in basic sciences category.

SOURCE: 2010 US CENSUS BUREAU REPORT; NIH